



Statewide Interoperability Executive Committee (SIEC)
Arizona Interagency Radio System (AIRS)
Standard Operating Procedures

Arizona Interagency Radio System (AIRS)
Standard Operating Procedures

Distribution Statement:

Record of Changes

[illegible]

Signature Page

Approved by:

_____	_____
Name/Title	Date

_____	_____
Name/Title	Date

_____	_____
Name/Title	Date

_____	_____
Name/Title	Date

Executive Summary

Purpose

This document contains standard operating procedures for the Arizona Interagency Radio System (AIRS). These procedures are intended to inform dispatcher and user actions regarding AIRS. AIRS is a suite of full-time, cross-banded mutual aid channels designed to provide interoperable communications capability to first responders of police, fire, and EMS agencies, as well as other personnel of municipal, county, state, tribal, federal agencies and approved non-governmental organizations (NGOs) performing public safety or public service activities.

These radio frequencies are to be used in the event of a multi-agency operation requiring the use of the common state radio channel(s), specifically for the use of coordinating activities during identified incidents. AIRS frequencies are not designed to be used by a single agency for routine public safety operations.

Table of Contents

Executive Summary	i
Purpose.....	i
1. Introduction.....	2
1.1. Policy	2
1.2. Purpose.....	2
1.3. Administration	2
1.4. Document Terminology	2
1.5. Updates & Revisions	2
2. AIRS Standards.....	3
2.1. Introduction.....	3
2.2. Region Assignments	3
2.2.1 VHF Channels/Frequencies	3
2.2.2 UHF Channels/Frequencies	3
2.2.3 800MHz Channels/Frequencies	4
2.2.4 Regional AIRS and VTAC Channel Assignments	5
2.3. Operational Guidelines	6
2.3.1 Rules of Use	6
2.3.2 Prioritization	6
2.3.3 Restrictions and Limitations	7
2.3.4 Dispatch Actions	7
2.3.5 Field User Actions	8
2.4. Problem ID and Resolution.....	8
2.5. AIRS Testing Protocols	8
Appendix A AIRS Regional Channel Map.....	A-1
Appendix B AIRS Tower Locations and Assigned PL Tones.....	B-1
Appendix C VTAC Regional Channel Map.....	C-2
Appendix D Glossary.....	D-3

List of Figures

Figure 1 Regional AIRS Channel Assignments.....	A-1
Figure 2 Regional VHF Tactical Channel Assignments.....	C-2

List of Tables

Table 1 Statewide VHF Shared Channels.....	3
Table 2 Statewide UHF Shared Channels.....	4
Table 3 Statewide 800MHz Shared Channels	4
Table 4 Regional AIRS and VTAC Assignments.....	5

1. Introduction

1.1. Policy

This Standard Operating Procedure (SOP) defines how to use the statewide interoperability system known as the Arizona Interagency Radio System (AIRS).

1.2. Purpose

AIRS is a suite of full-time, cross-banded (i.e. VHF, UHF, and 800MHz*) mutual-aid channels designated specifically for multi-agency use across the State of Arizona. Agencies wishing to operate on AIRS must sign a Memorandum of Understanding (MOU) with the Department of Public Safety (DPS) which holds the licenses for AIRS frequencies.

AIRS is designed to provide interoperable communications capability to first responders of police, fire, and EMS agencies, as well as other personnel of municipal, county, state, tribal, federal agencies and approved non-governmental organizations (NGOs) performing public safety or public service activities.

These radio frequencies are to be used in the event of a multi-agency, multi-discipline, and/or multi-jurisdictional operation requiring the use of the common state radio channel(s), specifically for the use of coordinating activities during identified incidents. AIRS frequencies are not to be used by a single agency for routine public safety operations. AIRS frequencies may, however, be used by a single agency to reconstitute communications in the event of a system failure or other significant communications loss.

1.3. Administration

The Arizona Statewide Interoperability Executive Committee (SIEC) provides AIRS oversight.

1.4. Document Terminology

The terms “shall”, “must” and “required” are used throughout this document to indicate required parameters and to differentiate from recommended parameters. Recommendations are identified by the words “desirably” or “preferably”.

1.5. Updates & Revisions

The SIEC will review this SOP annually, or as needed. Agencies wishing to submit revisions or additions to this SOP should submit their requests in writing to the AIRS DPS Point of Contact (POC).

* All 700 MHz radio can be programmed to access AIRS 800MHz frequencies.

2. AIRS Standards

2.1. Introduction

Insert content here

2.2. Region Assignments

Insert general info regarding the assignments and regarding AIRSAZ here.

All signatory agencies to the AIRS MOU will program AIRS frequencies into their radios in order (AIRSAZ followed by AIRS1, AIRS2, AIRS3, AIRS4, and AIRS5). The programming zone may differ depending on the agency or the type of radio.

Note that the AIRS MOU applies specifically, and only, to AIRS-suite channels and does NOT include VTAC, UTAC, or 8TAC channels.

2.2.1 VHF Channels/Frequencies

Insert text here or move these tables to an appendix

Table 1 Statewide VHF Shared Channels

AZ-SIEC NAME	BAND-WIDTH	TX FREQ MHz	TX CTCSS Hz	RX FREQ MHz	RX CTCSS Hz	NCC NAME	NPSTC NAME
AIRSAZ	25 KHz	155.190	156.7	155.475	CSQ		
AIRS1	25 KHz	155.190	141.3	155.475	CSQ		
AIRS2	25 KHz	155.190	131.8	155.475	CSQ		
AIRS3	25 KHz	155.190	110.9	155.475	CSQ		
AIRS4	25 KHz	155.190	123.0	155.475	CSQ		
AIRS5	25 KHz	155.190	167.9	155.475	CSQ		
VAIRS_D	25 KHz	155.475	156.7	155.475	CSQ	1LAW16	VLAW31
VCALL	12.5KHz	155.7525	156.7	155.7525	CSQ	1CAL18	VCALL10
VTAC1	12.5KHz	151.1375	156.7	151.1375	CSQ	1TAC5	VTAC11
VTAC2	12.5KHz	154.4525	156.7	154.4525	CSQ	1TAC13	VTAC12
VTAC3	12.5KHz	158.7375	156.7	158.7375	CSQ	1TAC22	VTAC13
VTAC4	12.5KHz	159.4725	156.7	159.4725	CSQ	1TAC23	VTAC14

2.2.2 UHF Channels/Frequencies

Insert text here or move these tables to an appendix

Table 2 Statewide UHF Shared Channels

AZ-SIEC NAME	BAND-WIDTH	TX FREQ MHz	TX CTCSS Hz	RX FREQ MHz	RX CTCSS Hz	NCC NAME	NPSTC NAME
AIRSAZ	25 KHz	465.375	100.0	460.375	CSQ		
AIRS1	25 KHz	465.375	141.3	460.375	CSQ		
AIRS2	25 KHz	465.375	131.8	460.375	CSQ		
AIRS3	25 KHz	465.375	110.9	460.375	CSQ		
AIRS4	25 KHz	465.375	123.0	460.375	CSQ		
AIRS5	25 KHz	465.375	167.9	460.375	CSQ		
UAIRS_D	25 KHz	460.375	100.0	460.375	CSQ		
UCALL	12.5KHz	458.2125	156.7	453.2125	CSQ	4CAL27	UCALL40
UCALL_D	12.5KHz	453.2125	156.7	453.2125	CSQ	4CAL27D	UCALL40D
UTAC1	12.5KHz	458.4625	156.7	453.4625	CSQ	4TAC28	UTAC41
UTAC1_D	12.5KHz	453.4625	156.7	453.4625	CSQ	4TAC28D	UTAC41D
UTAC2	12.5KHz	458.7125	156.7	453.7125	CSQ	4TAC29	UTAC42
UTAC_D	12.5KHz	453.7125	156.7	453.7125	CSQ	4TAC29D	UTAC42D
UTAC3	12.5KHz	458.8625	156.7	453.8625	CSQ	4TAC30	UTAC43
UTAC3_D	12.5KHz	453.8625	156.7	453.8625	CSQ	4TAC30D	UTAC43D

2.2.3 800MHz Channels/Frequencies

Insert text here or move these tables to an appendix

Table 3 Statewide 800MHz Shared Channels

AZ-SIEC NAME	BAND-WIDTH	TX FREQ MHz	TX CTCSS Hz	RX FREQ MHz	RX CTCSS Hz	NCC NAME	NPSTC NAME
AIRSAZ	20KHz	821.0125	156.7	866.0125	CSQ	8CAL90	8CALL90
AIRS1	20KHz	821.0125	141.3	866.0125	CSQ	8CAL90	8CALL90
AIRS2	20KHz	821.0125	131.8	866.0125	CSQ	8CAL90	8CALL90
AIRS3	20KHz	821.0125	110.9	866.0125	CSQ	8CAL90	8CALL90
AIRS4	20KHz	821.0125	123.0	866.0125	CSQ	8CAL90	8CALL90

AIRS5	20KHz	821.0125	167.9	866.0125	CSQ	8CAL90	8CALL90
8AIRS_D	20KHz	866.0125	156.7	866.0125	CSQ	8CAL90D	8CALL90D
8AIRSTAC1	20KHz	821.5125	156.7	866.5125	CSQ	8TAC91	8TAC91
8AIRSTAC1_D	20KHz	866.5125	156.7	866.5125	CSQ	8TAC91D	8TAC91D
8AIRSTAC2	20KHz	822.0125	156.7	867.0125	CSQ	8TAC92	8TAC92
8AIRSTAC2_D	20KHz	867.0125	156.7	867.0125	CSQ	8TAC92D	8TAC92D
8AIRSTAC3	20KHz	822.5125	156.7	867.5125	CSQ	8TAC93	8TAC93
8AIRSTAC3_D	20KHz	867.5125	156.7	867.5125	CSQ	8TAC93D	8TAC93D
8AIRSTAC4	20KHz	823.0125	156.7	868.0125	CSQ	8TAC94	8TAC94
8AIRSTAC4_D	20KHz	868.0125	156.7	868.0125	CSQ	8TAC94D	8TAC94D
8AIRSTAC5	20KHz	821.0375	156.7	866.0375	CSQ		
8AIRSTAC5_D	20KHz	866.0375	156.7	866.0375	CSQ		

2.2.4 Regional AIRS and VTAC Channel Assignments

Dispatch and field personnel will utilize the following AIRS or VTAC channels as assigned to their region:

Table 4 Regional AIRS and VTAC Assignments

AIRS1	Maricopa County	VTAC1	Gila County La Paz County Pinal County Yuma County
AIRS2	Coconino County Pima County Santa Cruz County	VTAC2	Cochise County Graham County Greenlee County Maricopa County Mohave County
AIRS3	Gila County La Paz County Pinal County Yuma County	VTAC3	Coconino County Pima County Santa Cruz County
AIRS4	Apache County Mojave County Navajo County	VTAC4	Apache County Navajo County Yavapai County
AIRS5	Cochise County Graham County Greenlee County Yavapai County		

2.3. Operational Guidelines

Insert text here

2.3.1 Rules of Use

AIRS channels are reserved for situations that require interoperable communications to coordinate multiple public safety entities and/or activities across two or more separate radio systems. The following rules of use shall apply to these channels:

- **National Incident Management System** – Use an Incident Command System (ICS) compliant with the National Incident Management System (NIMS) when using any regional interoperability resource.
- **Plain Language** – All interoperable communications during multi-agency, multi-discipline incidents will be in plain language. Avoid using radio codes, acronyms, and abbreviations as they may cause confusion between agencies. Ensure that all verbal requests for assistance or backup specify the reason for the request.
- **Unit Identification** – Announce your home agency prior to announcing your unit identifier during interoperable communication situations (i.e., Flagstaff Engine 1).

2.3.2 Prioritization

In response to events or incidents which cross over political jurisdictions, there will potentially be competing demands and priorities for interoperable communications assets.

Until such time as Incident Command is established, the lead agency designee (i.e., communications supervisor/command personnel), in cooperation with their counterparts in other assisting agencies, will have the authority to designate the use of interoperable assets, including AIRS channels. Once Incident Command has been established, Command Staff or Communication Unit Leaders (when designated) direct the further coordination and delegation of the interoperable communications assets assigned to the event or incident in question.

Agencies should judiciously activate needed interoperable assets so as to both effectively respond to the event and/or incident and also minimize any negative impact on surrounding agencies or jurisdictions.

When the same resources are requested for two or more incidents, AIRS assignments should be based on the priority levels listed below:

1. Disasters, large scale incidents, or extreme emergencies requiring mutual aid or interagency communications.
2. Incidents where imminent danger exists to life or property.
3. Incidents requiring the response of multiple agencies.
4. Pre-planned events requiring mutual aid or interagency communications.
5. Incidents involving a single agency where supplemental communications are needed for agency use.
6. Drills, tests and exercises.

In the event of multiple simultaneous incidents within the same priority level, AIRS channels should be allocated with the following priorities in mind:

1. Incidents with the greatest level of exigency (e.g., greater threat to life or property, more immediate need, etc.) have priority over less exigent incidents.
2. Agencies with single/limited interoperable options have priority use of those options over agencies with multiple interoperable options.
3. When at all possible, agencies already using an interoperable asset during an event should not be redirected to another resource.

2.3.3 Restrictions and Limitations

Insert known restrictions or limitations here (proper/improper use, coverage limitations, etc.)

Known issues:

- Interference
- Coverage
- Multiple simultaneous events
- Non-voted tower assignments
- Terrain limitations
- AIRS channels are NOT encrypted.
- AIRS suites are not yet fully deployed in Cochise County. Two more suites are needed to complete the system.
- Several locations exist statewide where users have AIRS coverage but are not near enough to any county dispatch center to allow for AIRS monitoring.
- There are no AIRS suites currently in service in La Paz County.

2.3.4 Dispatch Actions

The dispatch center for each county's sheriff's department is responsible for monitoring AIRSAZ or the regionally assigned AIRS channel 24/7. DPS will monitor AIRSAZ in counties (i.e. Cochise, Graham, and Greenlee Counties) where the sheriff's dispatch cannot. The volume for AIRS shall be set to an appropriate level such that dispatchers can immediately hear any message traffic across that channel at all times. Sheriff's Department dispatch centers will notify additional agencies of AIRS incidents, as appropriate. Note that car-to-car or "direct" AIRS usage will not be monitored by any dispatch center.

Sheriff's dispatch will maintain ownership of any AIRS activity in their county until/unless they are able to successfully notify an owning agency which agrees to assume responsibility for the incident traffic. At this time, Sheriff's dispatch will surrender the incident to the owning agency but may continue to monitor AIRS traffic in the event of a change in the incident or the emergency of a second incident.

During an incident, dispatch personnel will document all incidents on AIRS in a manner consistent with their daily practices for incidents within their agency. For example, dispatch will

initiate a CAD record for incidents reported on AIRS if creating such a record is consistent with their daily operations protocols.

At the termination of an incident, or when the incident no longer requires the use of AIRS, dispatch personnel will announce that the channel is clear and document the time in their incident records.

2.3.5 Field User Actions

Insert user actions (how to use AIRS as a user) here

2.4. Problem ID and Resolution

During an incident:

- Report AIRS problems to the primary agency dispatcher or to the COML, if designated, who will follow established agency procedures to resolve the problem.
- Immediately notify DPS.
- Move the incident off of AIRS channels if the issue cannot be resolved satisfactorily.

Following an incident, the following general problem ID and resolution processes apply to AIRS:

- Dispatch personnel for the agency initiating the call for service, incident command staff, and/or the incident COML will report any problems with AIRS to DPS by contacting the AIRS POC. The AIRS POC will be responsible for ensuring effective resolution to all reported problems.
- Report unresolved AIRS problems directly to the SIEC. The SIEC will ensure effective resolution to all reported AIRS problems.

2.5. AIRS Testing Protocols

Each county dispatch agency responsible for primary AIRS monitoring duties will host a monthly open-net test of the AIRS system. Each county's test will be set and announced in advance at the discretion of that county. At the onset of the test, dispatch personnel will announce the start of the test, ensure that the channel is not otherwise in use, and execute a roll-call of public safety and service agencies within that county. Additional agencies not included in the roll-call will be given an opportunity to announce themselves at the end of the roll-call. County dispatchers can then terminate the test and will provide a written list of roll-call responses (positive, negative, and any known problems) to the DPS AIRS POC.

Appendix A AIRS Regional Channel Map

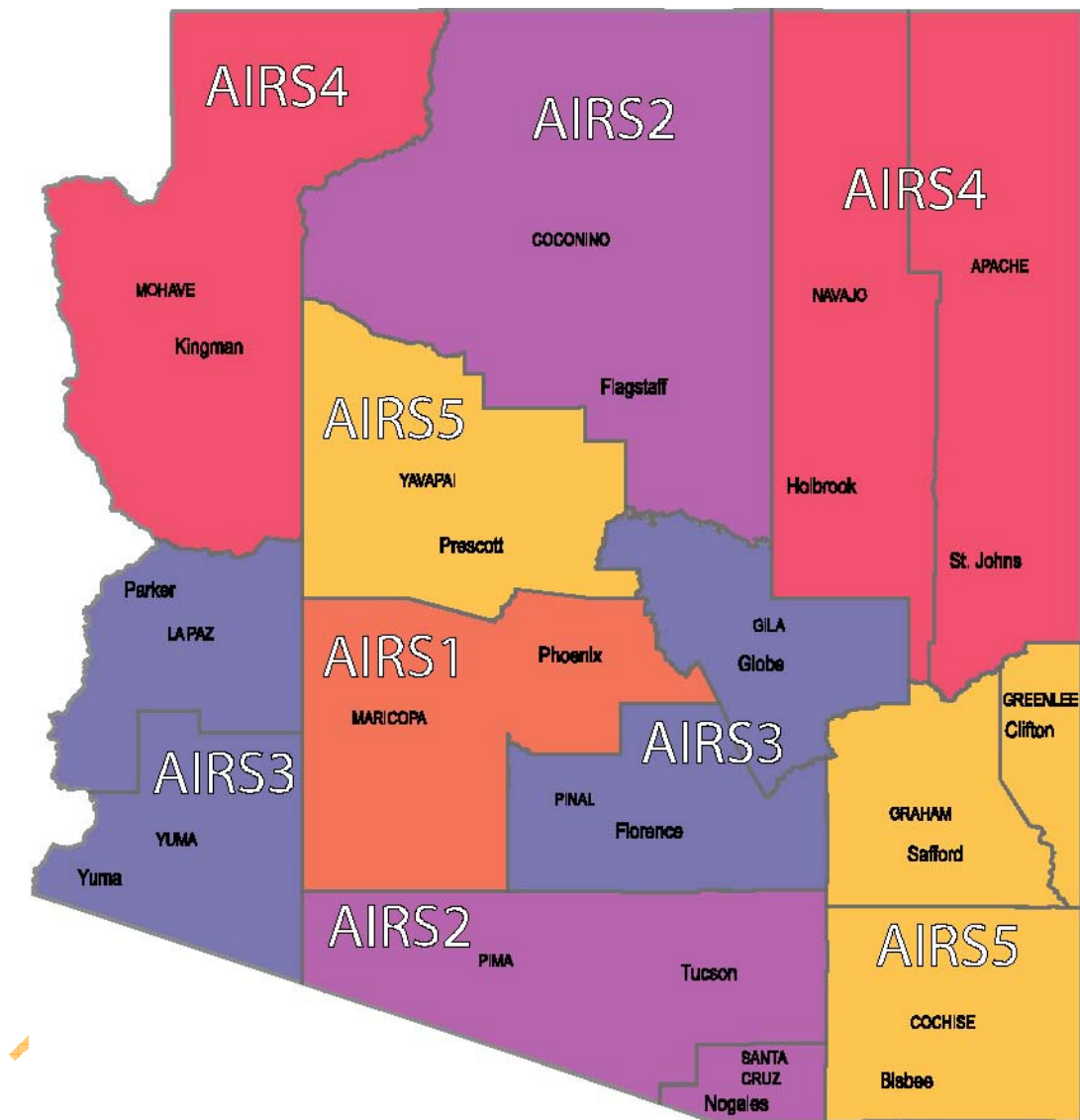


Figure 1 Regional AIRS Channel Assignments

Appendix B AIRS Tower Locations and Assigned PL Tones

DRAFT

Appendix C VTAC Regional Channel Map

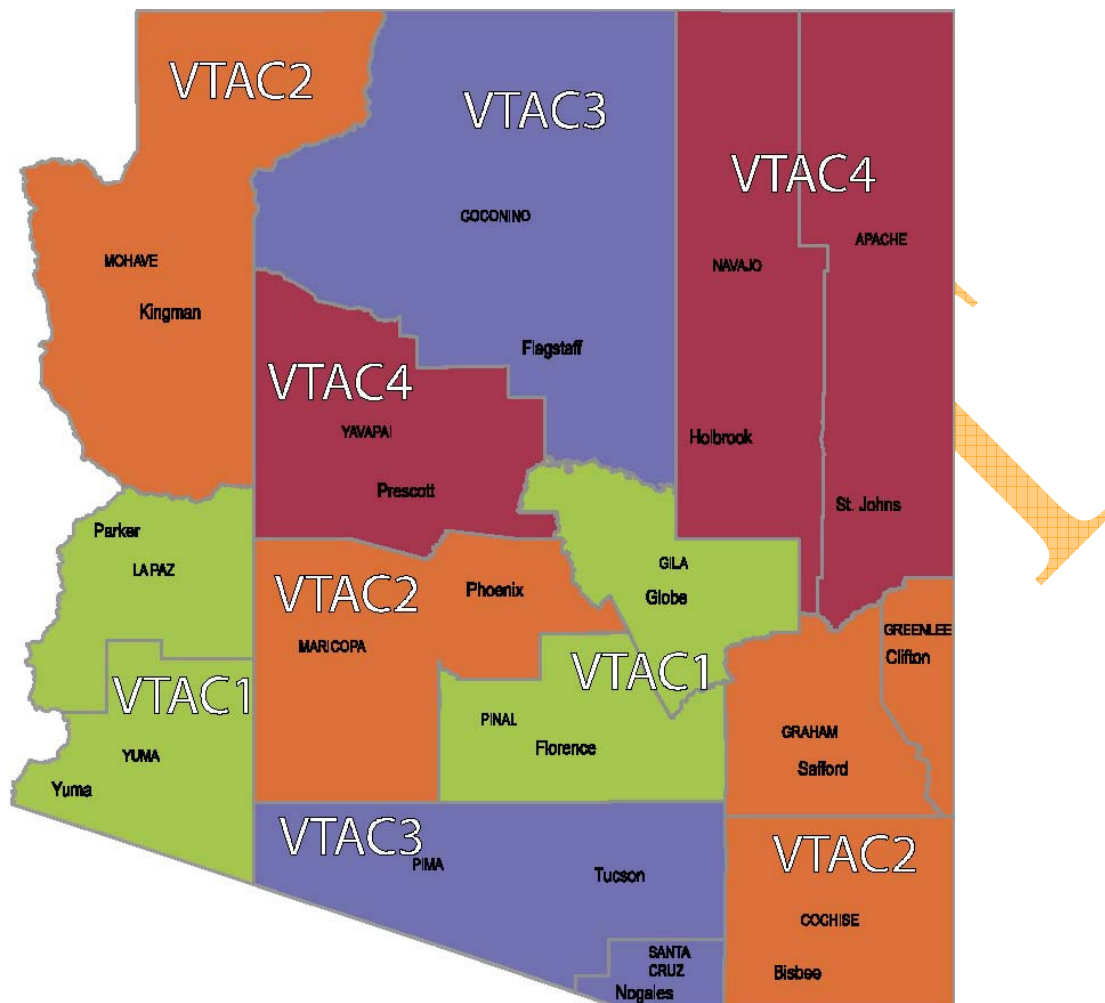


Figure 2 Regional VHF Tactical Channel Assignments

Appendix D Glossary

AIRS	Arizona Interagency Radio System, formerly referred to as the Interagency Radio System (IARS) or as the Arizona Emergency Radio System (AERS)
AIRSAZ	Arizona Interagency Radio System Arizona
CTCSS	Continuous Tone-coded Squelch System
DPS	Department of Public Safety
EMS	Emergency Medical Services
FCC	Federal Communications Commission
IC	Incident Command
ICS	Incident Command System
ID	Identification
NGO	Non-governmental Organization
NIMS	National Incident Management System
NPSTC	National Public Safety Telecommunications Council
PL	Private Line
POC	Point of Contact
PSAP	Public Safety Answering Point
SIEC	Statewide Interoperability Executive Committee
SOP	Standard Operating Procedure